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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,710	04/05/2001	Rajendra Kumar Bera	JP920000136US1	3960

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EXAMINER	
EHICHIOYA, FRED I	

ART UNIT	PAPER NUMBER
2172	9

DATE MAILED: 10/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/826,710	BERA, RAJENDRA KUMAR	
	Examiner	Art Unit	
	Fred I. Ehichioya	2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Response to communication filed on July 18, 2003
2. Claims 1 – 7 are pending in this office action.
3. Claims 1, 6, and 7 have been amended by the applicants
4. Applicant's arguments with respect to claims 1 – 7 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

   (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,694,593 issued to Baclawski, Kenneth P. (hereinafter "Baclawski")

Regarding claim 1, Baclawski teaches a method for searching data to locate a portion of said data identified by a search query, the method comprising:

receiving a search query including two or more data fragments expected to be contained within said data (see column 2, lines 12 – 13);

searching the data to locate matches between the data and the respective data fragments (see column 2, lines 13 – 14); and

identifying a minimal portion of said data that contains matches with all of the data fragments, wherein at least one of the data fragments appears only once in the minimal portion (see column 2, lines 3 – 14).

Baclawski does not explicitly state "wherein at least one of the data fragments appears only once in the minimal portion". However, Baclawski discloses in column 2, lines 6 – 7 " the home node of the search engines, fragments the received query and then hashes the fragments of the query". It would have been obvious to one of ordinary skill in the art at the time the invention was made, that at least a portion of the fragments might appear only once or multiple times in the hashed fragment. The motivation is that the system comprises a plurality of data storage units and application, which generates a search request using the fragments of the query to perform a search on its respective database. These fragments make the search quick and cost efficient.

3. Claims 2, 3, 4, 5, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baclawski in view of U.S. Patent 5,884,303 issued to Brown, Anthony Peter Graham (hereinafter "Brown").

Regarding claim 2, Baclawski does not explicitly teach identifying a portion of said data containing all of said data fragments and extending between:

an end location which is the location of the first match with that one of said data fragments which is the last to appear in the data; and

a start location which is the location of the match, next preceding said end location, with that one of the said data fragments which is the first to appear in the data.

Brown teaches an end location which is the location of the first match with that one of said data fragments which is the last to appear in the data (see column 4, lines 56 – 57); and

a start location which is the location of the match, next preceding said end location, with that one of the said data fragments which is the first to appear in the data (see column 4, lines 48 – 53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Baclawski with the teaching of Brown wherein the start position and end position determine a match of the search fragment. The motivation is that this combination produces an efficient and extremely high data search rate.

Regarding claim 3, Baclawski teaches the steps of:

(i) receiving said data in a computer memory (see column 1, lines 32 – 42) ;

(ii) receiving a search query comprising two or more data fragments (see column 2, lines 12 – 13 and column 3, lines 25 – 26);

(Iii) searching the data to locate matches between the data and the respective data fragments (see column 2, lines 13 – 16);

(iv) recording the memory addresses of said matches (see column 7, lines 29 – 31);

Baclawski does not explicitly teach (v) for each match, identifying any partial overlap with any other match; (vi) for any such partial overlap, searching said data to seek a new match which does not overlap any other match; and (vii) identifying a portion of said data from the location of the first to the last non-overlapping match

Brown teaches (v) for each match, identifying any partial overlap with any other match (see column 5, lines 1 –2);

(vi) for any such partial overlap, searching said data to seek a new match which does not overlap any other match (see column 4, lines 58 – 63); and

(vii) identifying a portion of said data from the location of the first to the last non-overlapping match (column 5, lines 8 – 14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Baclawski with the teaching of Brown wherein an entry in the output search list, this entry including the file name, offset and length of the overlap area are created. The motivation is that the offset can also be

included in the entry, and used to order the fragment search. This effectively minimizes the search time.

Regarding claim 4, Baclawski does not explicitly teach the steps of: (i) storing the data fragments in computer memory as a string variable; (ii) searching the data to locate the first match between the data and each data fragment and, for each data fragment, store the location of that first match as a respective pointer variable; (iii) by reference to the pointer variables and the string lengths of the data fragments determining any partial overlaps between said matches; (iv) for any such partial overlap, searching the data to locate the next match with the relevant data fragment and store the location of that next match in a respective further pointer variable; (v) by reference to said pointer variables determining any remaining partial overlaps between said matches and repeat step (iv) until there is identified a portion of said data containing all of said data fragments without any overlaps therebetween.

Brown teaches (i) storing the data fragments in computer memory as a string variable (see column 3, lines 37 – 41);

(ii) searching the data to locate the first match between the data and each data fragment and, for each data fragment, store the location of that first match as a respective pointer variable (see column 1, lines 15 – 18, column 3, lines 37 – 41 and column 4, lines 49 – 50,);

(iii) by reference to the pointer variables and the string lengths of the data fragments determining any partial overlaps between said matches (see column 4, line 51 and column 5, lines 1 – 4);

(iv) for any such partial overlap, searching the data to locate the next match with the relevant data fragment and store the location of that next match in a respective further pointer variable (see column 4, lines 48 – 53 and column 5, lines 1 – 2);

(v) by reference to said pointer variables determining any remaining partial overlaps between said matches and repeat step (iv) until there is identified a portion of said data containing all of said data fragments without any overlaps therebetween (see column 3, line 57; column 4, lines 64 – 67 and column 5, lines 1 – 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Baclawski with the teaching of Brown wherein searching the data to locate the next match with the relevant data fragment and store the location of that next match in a respective further pointer variable. The motivation is that the system comprises a plurality of data storage units and application, which generates a search request using the fragments of the query to perform a search on its respective database. These fragments make the search quick and cost efficient.

Regarding claim 5, Baclawski teaches displaying said data upon a display screen and highlighting said identified portion of data (see column 9, lines 40 – 44).

Claim 6 is essentially the same as claim 1 except that it sets forth the claimed invention as a system rather than a method and therefore rejected for the same reasons as applied hereinabove.

Claim 7 is essentially the same as claim 1 except that it sets forth the claimed invention as a computer program product rather than a method data and therefore rejected for the same reasons as applied hereinabove.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred I. Ehichioya whose telephone number is 703-305-8039. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on 703-305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-303-3900.

Fred Ehichioya
Patent Examiner
September 22, 2003